

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Wolfgang Gaschler et al.

Application No.: 10/542,715

Confirmation No.: 5738

Filed: July 20, 2005

Art Unit: 1713

For: AQUEOUS DISPERSIONS CONTAINING  
ETHYLENE COPOLYMER WAXES

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Examiner: R. D. Harlan

**APPEAL BRIEF**

MS Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on March 12, 2010, and is in furtherance of said Notice of Appeal.

The fees required under § 41.20(b)(2) are dealt with in the accompanying  
TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.2:

- I. Real Party In Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Claimed Subject Matter
- VI. Grounds of Rejection to be Reviewed on Appeal
- VII. Argument
- VIII. Claims
- Appendix A Claims

Appendix B Evidence  
Appendix C Related Proceedings

**I. REAL PARTY IN INTEREST**

The real party in interest for this appeal is:

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**II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

**III. STATUS OF CLAIMS**

**A. Total Number of Claims in Application**

There are 18 claims pending in application.

**B. Current Status of Claims**

1. Claims canceled: 6, 8, 16-19
2. Claims withdrawn from consideration but not canceled: 0
3. Claims pending: 1-5, 7, 9-15 and 20-24
4. Claims allowed: 0
5. Claims rejected: 1-3, 5, 10 and 13-15

**C. Claims On Appeal**

The claims on appeal are claims 1-5, 7, 9-15 and 20-24.

**IV. STATUS OF AMENDMENTS**

A Preliminary Amendment was filed on July 20, 2005. The claims appealed herein are the claims of record and considered in the Non-Final Office Action of April 7, 2008, the Response filed July 3, 2008 in reply to the Non-Final Office Action, the Non-Final Office Action of October 16, 2008, the Response filed January 19, 2009 in reply to the Non-Final Office

Action, the Non-Final Office Action of April 29, 2009, the Response filed July 29, 2009 in reply to the Non-Final Office Action, the Final Office Action of November 12, 2009, the Response filed February 12, 2010 in reply to the Final Office Action.

#### V. SUMMARY OF CLAIMED SUBJECT MATTER

This section includes a concise explanation of the subject matter defined in each of the independent claims involved in the appeal (i.e., claims 14 and 37), which includes references to the specification, as specified in 37 C.F.R. § 41.37.

The claimed subject matter relates to an aqueous dispersion. The dispersion includes at least one ethylene copolymer wax comprising from 60 to 99.5% by weight of ethylene and from 0.5 to 40% by weight of at least one ethylenically unsaturated carboxylic acid in copolymerized form and also at least one hydrophobic organic substance having a molecular of up to 2000 g/mol, in which polymer waxes are excluded as the organic substance. Independent claim 1 is discussed at page 1, lines 5-9 and page 2, lines 11-24 of the specification.

#### VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Has the Examiner shown that claims 1-3, 5, 10, 13-15 are anticipated under 35 U.S.C. § 102(b) by WO 00/50473 to Nakata?

#### VII. ARGUMENT

Claims 1-3, 5, 10, 13-15 are rejected under 35 U.S.C. § 102(b) as anticipated by WO 00/50473 to Nakata.

##### *Independent Claim 1*

Nakata does not describe or suggest all of the features and components of the claimed aqueous dispersion. In particular, independent claim 1 is directed to “an aqueous dispersion comprising at least one ethylene copolymer wax comprising from 60 to 99.5% by weight of ethylene and from 0.5 to 40% by weight of at least one ethylenically unsaturated carboxylic acid in copolymerized form *and also at least one hydrophobic organic substance having a molecular of up to 2000 g/mol, wherein polymer waxes are excluded as the organic substance.*” (See, Appellant’s claim 1, above). (Emphasis added).

By contrast, Nakata merely describes an aqueous dispersion comprising an ethylene-

(meth)acrylic and a hydrophobic low molecular weight substance (ammonia or additive). *See* Nakata, page 4.

According to the Examiner, “MFR is  $(M_w) \times 10^{(exp)3.4}$  and the ethylene-(meth)acrylic polymer disclosed in Nakata has a MFR corresponding to a wax. The Examiner has found no evidence in the accompanying documents to the final rejection that suggest the ethylene-(meth)acrylic are not waxes.” Advisory Action at page 2. Appellant notes that MFR generally refers to melt flow rate or melt flow index (MFI), which is an indirect measurement of molecular weight, and in which high melt flow rate corresponds to low molecular weight.

However, Appellant asserts that the ethylene-methacrylic acid copolymers disclosed by Nakata et al. are not waxes as evidenced by the MFR (see page 3, line 27 in Nakata), but high-molecular weight resins. Also, Appellant points out that ammonia is not hydrophobic. Moreover, for the Office's convenience, Appellant had previously provided a chapter from Ullmann's Encyclopedia, dealing with molecular weight and MFR of various polymers. *See* Response to Office Action dated February 12, 2010.

In particular, from the Ullmann's Encyclopedia, e.g., pages 147 and 150, it can be seen that polyethylene waxes are polymers but have a comparably low molecular weight. The molecular weight is too low for an MFR, such as described in Nakata et al. Thus, the MFR of the polyethylene waxes need not be measured - but is immeasurable.

Further, Appellant points out, regarding anticipation, in Manual of Patent Examining Procedure (MPEP) § 2131, it emphasized that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) . . . “The identical invention must be shown in as complete detail as is contained in the . . . claim.” (*See, Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). (Emphasis added).)

In the present case, in view of the above legal precedent and differences between Nakata and the claimed invention, it is apparent that the disclosure of Nakata fails to anticipate the components and features of the aqueous dispersion of Appellant's claim 1.

*Dependent Claims 2, 3, 5, 10, and 13-15*

The dependent claims incorporate all of the subject matter of their respective independent claims and add additional subject matter, which makes them a *fortiori* and independently patentable over the art of record. Accordingly, Appellant respectfully requests that the outstanding rejections of the dependent claims be reconsidered and withdrawn.

**VIII. CLAIMS**

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include the amendments filed by Appellant on July 29, 2009.

If any additional fee is due, please charge our Deposit Account No. 03-2775, under Order No. 12810-00109-US from which the undersigned is authorized to draw.

Dated: May 12, 2010

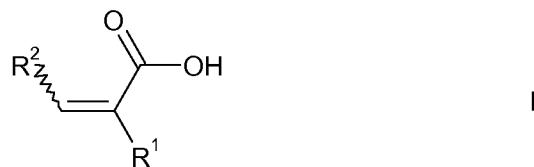
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**APPENDIX A**

## Claims Involved in the Appeal of Application Serial No. 10/542,715

1. (Previously Presented) An aqueous dispersion comprising at least one ethylene copolymer wax comprising from 60 to 99.5% by weight of ethylene and from 0.5 to 40% by weight of at least one ethylenically unsaturated carboxylic acid in copolymerized form and also at least one hydrophobic organic substance having a molecular of up to 2000 g/mol, wherein polymer waxes are excluded as the organic substance.
2. (Previously Presented) The dispersion as claimed in claim 1, wherein at least one ethylenically unsaturated carboxylic acid is a carboxylic acid of the formula I



in which the radicals are defined as follows:

$R^1$  is selected from among hydrogen and unbranched or branched  $C_1-C_{10}$ -alkyl,

$R^2$  is selected from among hydrogen, unbranched or branched  $C_1-C_{10}$ -alkyl and COOH, COOCH<sub>3</sub>, COOC<sub>2</sub>H<sub>5</sub>.

3. (Previously Presented) The dispersion as claimed in claim 1, wherein at least one low molecular weight hydrophobic substance is an oil-soluble dye.
4. (Previously Presented) The dispersion as claimed in claim 1, wherein the low molecular weight hydrophobic substance is selected from among distyryl compounds and benzoxazole derivatives.

5. (Previously Presented) A process for preparing aqueous dispersions as claimed in claim 1, which comprises firstly mixing one or more ethylene copolymer waxes with at least one hydrophobic low molecular weight organic substance and subsequently dispersing the mixture in water.
6. (Canceled).
7. (Previously Presented) A paper coating composition comprising a dispersion as claimed in claim 1.
8. (Canceled).
9. (Previously Presented) A paper treated with a paper coating composition as claimed in claim 7.
10. (Previously Presented) The dispersion as claimed in claim 2, wherein at least one low molecular weight hydrophobic substance is an oil-soluble dye.
11. (Previously Presented) The dispersion as claimed in claim 2, wherein the low molecular weight hydrophobic substance is selected from among distyryl compounds and benzoxazole derivatives.
12. (Previously Presented) The dispersion as claimed in claim 3, wherein the low molecular weight hydrophobic substance is selected from among distyryl compounds and benzoxazole derivatives.
13. (Previously Presented) The process for preparing aqueous dispersions as claimed in claim 2, which comprises firstly mixing one or more ethylene copolymer waxes with at least one hydrophobic low molecular weight organic substance and subsequently dispersing the mixture in water.

14. (Previously Presented) The process for preparing aqueous dispersions as claimed in claim 3, which comprises firstly mixing one or more ethylene copolymer waxes with at least one hydrophobic low molecular weight organic substance and subsequently dispersing the mixture in water.
15. (Previously Presented) The process for preparing aqueous dispersions as claimed in claim 4, which comprises firstly mixing one or more ethylene copolymer waxes with at least one hydrophobic low molecular weight organic substance and subsequently dispersing the mixture in water.
16. (Canceled).
17. (Canceled).
18. (Canceled).
19. (Canceled).
20. (Previously Presented) A paper coating composition comprising a dispersion as claimed in claim 2.
21. (Previously Presented) A paper coating composition comprising a dispersion as claimed in claim 3.
22. (Previously Presented) A paper coating composition comprising a dispersion as claimed in claim 4.
23. (Previously Presented) A paper coating composition comprising a dispersion as claimed in claim 5.
24. (Previously Presented) A paper coating composition comprising a dispersion as claimed in claim 6.

**APPENDIX B**

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

**APPENDIX C**

No related proceedings are referenced in II. above, hence copies of decisions in related proceedings are not provided.